

REMARKS

Claims 1, 2, 6-8, 16, 17, 51-56, 58-60 and 79-85 are pending in this application. By this Amendment, the title of the invention is amended to more clearly reflect the invention to which the claims are directed, claims 1, 2, 6-8, 16, 17, 51-56, 58-60 and 79-85 are amended to distinguish over the applied references, claim 57 is cancelled and previously withdrawn claims 61-78 and 86-95 are also cancelled. Applicant reserves the right to file one or more divisional applications based on claims 61-78 and 86-95. Reconsideration in view of the forgoing amendments and following remarks is respectfully requested.

I. Provisional Election

Applicant acknowledges the election of claim 79-85 and generic claims 1, 2, 6-8, 16, 17 and 51-60.

II. Double Patenting Rejections

The Office Action rejects claims 51-60 under the judicially created doctrine of obviousness-type double patenting over claims 1, 2, 6, 8-10 13 and 14 of U.S. Patent 5,917,798 to Horimai et al.; rejects claims 1, 2 and 6-8 under obviousness-type double patenting over claims over claims 1, 2, 6, 8-10, 13 and 14 of Horimai et al. in view of U.S. Patent 3,573,362 to Burchardt; rejects claims 16, 17, 79, 80 and 82 under obviousness-type double patenting over claims over claims 1, 2, 6, 8-10, 13 and 14 of Horimai et al. in view of Burchardt and further in view of U.S. Patent 6,272,095 to Liu et al.; and rejects claims 81 and 83-85 under obviousness-type double patenting over claims over claims 1, 2, 6, 8-10, 13 and 14 of Horimai et al. in view of Burchardt and Liu et al. and further in view of U.S. Patent 4,213,193 to Reid et al. Applicant respectfully traverses the rejections.

In particular, Applicant respectfully submits that Horimai does not disclose or suggest means for spatially modulating the phase of reproduction reference light in the same manner

in which the reference light was modulated when the information was recorded, as recited in independent claim 51 and similarly recited in independent claims 54, 56, and 59.

At col. 15, line 45 to col. 16, lines 40-65, Horimai states that during a recording operation, the spatial optical modulator 16 selects one of two states, i.e., on and off, for each of the pixels, in accordance with the information to be recorded. During recording, S-polarized light is incident upon the spatial optical modulator 16. The portion of the light passing through the pixels which are turned on, passes without rotation of the polarizing direction. This portion of the S-polarized light becomes the information light. The portion of light which passes through the pixels of the spatial optical modulator 16 which are turned off are rotated by 90° in the polarizing direction and become the recording reference light. However, at col. 18, line 30, Horimai states that during playback, i.e., reproduction, all pixels in the spatial optical modulator 16 are turned on. Therefore, Horimai does not use the same modulating pattern to create the recording reference light and the reproducing reference light.

The Office Action alleges that claim 9 of Horimai recites this feature. However, claim 9 merely recites that the reproduction light is spatially modulated in accordance with the information recorded in the address area, i.e., the address information. As discussed above, Horimai explicitly discloses that the reproduction light is not modulated the same way as the reference recording light. Claim 9 of Horimai does not recite “the same” but rather “in accordance with.” Accordingly, Horimai does not describe or suggest the subject matter recited in claims 51, 54, 56 and 59. Therefore, in view of these distinctions, Applicant submits that claims 51-60 are patentable over Horimai.

Further, Burchardt, Liu and Reid do not supply the deficiencies of Horimai because none of these references disclose or suggest that the same modulating pattern is used to create the recording and reproducing reference beams. Therefore, Applicant respectfully submits that the subject matter recited in claims 1, 2, 6-8, 16, 17 and 79-85 would not have been

rendered obvious over Burchardt, Liu and Reid individually or in combination. Accordingly, Applicant respectfully requests that the obviousness-type double patenting rejections of the claims be withdrawn.

III. Prior Art Rejections

The Office Action rejects claims 1, 6, 51 and 53-55 under 35 U.S.C. § 102(b) as anticipated by Burchardt. Applicant respectfully traverses the rejection.

In particular, and as discussed above, Applicant submits that Burchardt does not disclose or suggest an optical information recording and reproducing apparatus in which reproducing reference light is modulated in the same manner as recording reference light when the information is reproduced, as recited in claim 1 and similarly recited in independent claims 6, 51 and 54.

Burchardt teaches a method for forming a collinear reference beam and information beam. In Burchardt, several exposures are made to record an image with the reference beam being shifted, for example, by 120°, for each exposure. However, Burchardt does not specify the modulation of the reference beam used in reproducing images. Therefore, Applicant submits that claims 1, 6, 51 and 53-55 are patentable over Burchardt for at least this reason. Accordingly, Applicant respectfully requests that the rejection of claims 1, 6, 51 and 53-55 under 35 U.S.C. §102 (b) be withdrawn.

The Office Action rejects claims 7, 16, 56-60, 79, 80 and 82 under 35 U.S.C. §103(a) over Burchardt in view of Liu. Claim 57 is cancelled, however Applicant respectfully traverses the rejection of the remaining claims.

In particular, Applicant submits that neither Burchardt nor Liu disclose or suggest that the reproducing reference light is modulated in the same manner as the recording reference light when the information to be reproduced was recorded, as recited in independent claim 7 and similarly recited in independent claims 16, 56, 59 and 79.

Liu discloses teaches an apparatus for storing and/or reading data on an optical disk, but is silent as to whether the reproducing reference light is modulated in the same manner as the recording reference light during recording of the information. Therefore, Applicant respectfully submits that claims 7, 16, 56, 58-60, 79, 80 and 82 are patentable over Burchardt in view of Liu. Accordingly, Applicant respectfully requests that the rejection of claims 7, 16, 56, 58-60, 79, 80 and 82 under 35 U.S.C. §103 (a) be withdrawn.

The Office Action rejects claims 81 and 83-85 over Burchardt and Liu and further in view of Reid. Applicant respectfully traverses the rejection.

The Office Action asserts that Reid teaches an optical recording apparatus in which particular locations on the storage medium include block and parity bits for providing information on identification, location and data parity of any particular data page in one of the plurality of hologram data tracks. However, Applicant submits that Reid does not supply the deficiencies of Burchardt and Liu as discussed above in the context of independent claim 79 from which claims 81 and 83-85 depend. Therefore, Applicant submits that claims 81 and 83-85 are patentable over Burchardt and Liu in view of Reid for at least the same reasons that claim 79 is patentable over Burchardt and Liu. Accordingly, Applicant respectfully requests that the rejection of claims 81 and 83-85, under 35 U.S.C. § 103(a) be withdrawn.

The Office Action rejects claims 2, 8, 17, 52 and 58 under 35 U.S.C. §103(a) over Burchardt and Liu and further in view of Reid, U.S. Patent 4,638,471 to van Rosmalen, or U.S. Patent 5,777,760 to Hays et al. Applicant respectfully traverses the rejection.

As discussed above, Burchardt, Liu and Reid do not disclose or suggest that the reproducing reference light is modulated in the same manner as the recording reference light during recording of the information, as recited in claims 1, 7, 16, 51 and 56, from which claims 2, 8, 17, 52 and 58 depend. Van Rosmalen and Hays also do not disclose or suggest this feature. Thus, Applicant respectfully submits that none of theses references suggest the

subject matter of claims 1, 7, 16, 51 and 56, from which claims 2, 8, 17, 52 and 58 depend. Accordingly, Applicant respectfully requests that the rejection of claims 2, 8, 17, 52 and 58, under 35 U.S.C. §103(a) be withdrawn.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Phillip D. Mancini
Registration No. 46,743

JAO:PDM/ccs

Attachment:

Petition for Extension of Time.

Date: August 28, 2003

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
--